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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/823,612	KAJIWARA, HIROSHI	
	Examiner	Art Unit	
	Jessica Roberts	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) *3 and 12-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2,4-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Application

Claims 1-23 are pending in this application. Applicant's election without traverse of Species III (claims 1-2, and 4-11) in the reply filed on 1/10/2008 is acknowledged. **Claims 3 and 12-23** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 01/10/2008. **Claims 1-2 and 4-11** are examined in this office action.

1. Applicant's election without traverse of species III in the reply filed on 01/10/2008 is acknowledged.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10-11 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

Re claim 10, which defines a program that can be executed by an information processing apparatus. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be

realized- Guidelines Annex IV). That is, the scope of the presently claimed program that can be executed..." can range from paper on which the program is written, to be a program simply contemplated and memorized by a person. The examiner suggest amending the claim to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure. Claim 10 does not comply with the requirement of MPEP 2106.I.

Re claim 11, fails to remedy the issue as stated in claim 10. Thus, it is too rejected as non-statutory subject matter (Interim Guidelines Annex IV).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-2, 6-8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eiji et al., JP-2001-112004.

Regarding **claim 1,** Eiji teaches A moving image decoding method of decoding encoded moving image data, which is generated by decomposing each frame of moving image data into a plurality of subbands, and encoding coefficients of the subbands from upper to lower bits for respective bitplanes or sub-bitplanes for each predetermined unit, comprising: a decoding process time information acquisition step of acquiring information used to examine a difference between a time assigned to a decoding process of encoded moving image data for the predetermined unit ([0023] and [0032]), and a time required for an actual decoding process ([0056] and [0057]); a non-decoding bitplane determination step of determining bitplanes or sub-bitplanes which are not to be decoded on the basis of the information acquired in the decoding process time information acquisition step (Eiji teaches that in order to decode each image frame by the step which sets up the decode processing time of the request at the time of the demanded decode, and the decode processing time of the set up request The decode processing time of the above mentioned request by the step assigned to each coding batch and the assigned decode processing time The step which carries out the entropy decode of the separated above mentioned entropy coded data per bit plane for every coding batch, and asks for the quantized wavelet transform multiplier [0023]. Further disclosed, in order that the bit rate control section may encode each image frame, the bit rate, i.e., the target bit rate, of the request set up by the bit rate setting out section By assigning a target bit rate to each coding batch It takes into consideration whether the coded data to the bit plane of which level of each coding batch is used for generation of a coded bit stream. After controlling the number of a bit plane which gibes entropy code

modulation for every coding batch or finishing encoding all bit planes, processing which takes out the required amount of data sequentially from the thing corresponding to the top bit plane is performed [0033]. Therefore, it is clear to the examiner that Eiji teaches the request is made to specify and limit the number of frames at the decoder, which reads upon the claimed limitation); a bitplane decoding step of reclaiming the coefficients of the subbands from encoded data of bitplanes or sub-bitplanes other than the bitplanes or sub-bitplanes determined in the non-decoding bitplane determination step (Eiji teaches the step which carries out the entropy decode of the separated above-mentioned entropy coded data per bit plane for every coding batch, and asks for the quantized wavelet transform multiplier, the step which performs reverse quantization processing to the wavelet transform multiplier by which quantization was carried out, it has the step which performs wavelet inverse transformation to the wavelet transform multiplier by which reverse quantization was carried out, and reproduces an image frame [0023]. Therefore, it is clear to the examiner that Eiji is reclaiming coefficients from encoded data of bitstreams, since Eiji teaches decoding the separated entropy coded data to produce an image, which reads on the claimed limitation); and a subband composition step of generating frame data by compositing the coefficients of the plurality of subbands obtained in the bitplane decoding step (dynamic image generating section, [0042] and fig. 3:208).

Regarding **claim 2** Eiji teaches The method according to claim 1, wherein the decoding process time information acquisition step includes a step of acquiring a decoding process time required for the decoding process of the encoded moving image

data ([0057] and [0063]), and the non-decoding bitplane determination step includes a step of determining the bitplanes or sub-bitplanes which are not to be decoded on the basis of the decoding process time acquired in the decoding process time information acquisition step (Eiji teaches that in order to decode each image frame by the step which sets up the decode processing time of the request at the time of the demanded decode, and the decode processing time of the set up request The decode processing time of the above mentioned request by the step assigned to each coding batch and the assigned decode processing time The step which carries out the entropy decode of the separated above mentioned entropy coded data per bit plane for every coding batch, and asks for the quantized wavelet transform multiplier [0023]. Further disclosed, in order that the bit rate control section may encode each image frame, the bit rate, i.e., the target bit rate, of the request set up by the bit rate setting out section By assigning a target bit rate to each coding batch It takes into consideration whether the coded data to the bit plane of which level of each coding batch is used for generation of a coded bit stream. After controlling the number of a bit plane which gives entropy code modulation for every coding batch or finishing encoding all bit planes, processing which takes out the required amount of data sequentially from the thing corresponding to the top bit plane is performed [0033]. Therefore, it is clear to the examiner that Eiji teaches the request is made to specify and limit the number of frames at the decoder, which reads upon the claimed limitation).

Regarding **claim 6** Eiji teaches The method according to claim 2, wherein the non-decoding bitplane determination step includes a step of calculating a difference

between a time assigned to a decoding process of the encoded moving image data of the predetermined unit ([0023] and [0032]), and the decoding process time acquired in the decoding process time information acquisition step ([0056] and [0057]), and determining the bitplanes or sub-bitplanes which are not to be decoded of each subband on the basis of an accumulated value of the calculated differences ((Eiji teaches that in order to decode each image frame by the step which sets up the decode processing time of the request at the time of the demanded decode, and the decode processing time of the set up request The decode processing time of the above mentioned request by the step assigned to each coding batch and the assigned decode processing time The step which carries out the entropy decode of the separated above mentioned entropy coded data per bit plane for every coding batch, and asks for the quantized wavelet transform multiplier [0023]. Further disclosed, in order that the bit rate control section may encode each image frame, the bit rate, i.e., the target bit rate, of the request set up by the bit rate setting out section By assigning a target bit rate to each coding batch It takes into consideration whether the coded data to the bit plane of which level of each coding batch is used for generation of a coded bit stream. After controlling the number of a bit plane which gibes entropy code modulation for every coding batch or finishing encoding all bit planes, processing which takes out the required amount of data sequentially from the thing corresponding to the top bit plane is performed [0033]. Therefore, it is clear to the examiner that Eiji teaches the request is made to specify and limit the number of frames at the decoder, which reads upon the claimed limitation).

Regarding **claim 7**, Eiji teaches The method according to claim 1, wherein subband decomposition for generating the encoded moving image data is attained by two-dimensional discrete wavelet transformation ([0010]), and the subband composition step includes a step of compositing the frame data using two-dimensional inverse discrete wavelet transformation (wavelet reverse converter, [0049] and fig 4).

Regarding **claim 8,** Eiji teaches The method according to claim 1, wherein the predetermined unit is a frame or a block obtained by segmenting a frame into a plurality of blocks ([0003] and [0042]).

Regarding **claim 9**, see rejection and analysis of claim 1, except this is a claim to an apparatus with the same limitations as claim 1.

6. Claims 4-5, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eiji et al., JP 2001-112004 in view of Van Der Schaar et al., US-2004/0001635.

Regarding **claim 4,** Eiji is silent in regards to The method according to claim 1, wherein the non-decoding bitplane determination step includes a step of managing a parameter indicating image quality, adjusting the parameter on the basis of the information acquired in the decoding process time information acquisition step, and determining the bitplanes or sub-bitplanes which are not to be decoded of each subband on the basis of the parameter.

However, Van Der Schaar teaches The method according to claim 1, wherein the non-decoding bitplane determination step includes a step of managing a parameter indicating image quality ([0050], [0051] and [0052]), adjusting the parameter on the

basis of the information acquired in the decoding process time information acquisition step (Van Der Schaar teaches before deciding to discard bit-planes to reduce decoding complexity, the decoder takes into account the effect of discarding the bit planes on image quality [0018]. Further, the quality of the FGS decoded images is determined at the decoded side (where the original image is not present), and subsequently, the decoder uses the computed quality to determine how many bit planes can be discarded to reduce the complexity without lowering image quality below a desired quality level [0020]. Since Van Der Schaar discloses discarding bit planes based on the decoder complexity that takes in account image quality for a desired quality level and the quality is computed determines how many bit planes to discard, it is clear to the examiner that the quality can be adjusted based on how many bit planes are to be discarded, which reads on the claimed limitation.) and determining the bitplanes or sub-bitplanes which are not to be decoded of each subband on the basis of the parameter (Van Der Schaar teaches in some embodiments, the number of bit-planes decoded is dynamically adjusted within a single video sequence, to increase during a sequence of frames when there is higher detail, and decrease during a sequence of frames when there is lower detail [0028], [0046] and fig. 2:206, 207, and fig. 4:460), which reads on the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Eiji with Van Der Schaars' teaching of dynamically adjusting the decoded bit-planes to provide a more efficient encoding and decoding of bit-planes while upholding image quality [0006].

Regarding **claim 5,** Eiji is silent in regards to The method according to claim 1, wherein the non-decoding bitplane determination step includes a step of managing a table that stores the number of bitplanes or sub-bitplanes which are not to be decoded of each subband, and increasing/decreasing the number of bitplanes or sub-bitplanes, which are not to be decoded, stored in the table in accordance with the information acquired in the decoding process time information acquisition step.

However, Van Der Schaar teaches The method according to claim 1, wherein the non-decoding bitplane determination step includes a step of managing a table that stores the number of bitplanes or sub-bitplanes which are not to be decoded of each subband, and increasing/decreasing the number of bitplanes or sub-bitplanes, which are not to be decoded (Van Der Schaar teaches the decoder includes an additional block that determines how many bit-planes to decode ([0046] and fig. 4, 460). Further taught is the invention may be embodied in the form of computer program code embodied in tangible media, [0059]. Van Der Schaar teaches at step 206, for an image sequence having high detail, the number of bit-planes decoded is increased (and the number discarded decreased) [0033]. Further taught, at step 207 for an image sequence having low detail, the number of bit-planes decoded is decreased (and the number discarded increased) [0034], fig. 2:206, 207, fig. 4:460. Further, Van Der Schaar teaches a quality versus average complexity table can be stored and used at the (proprietary) decoder. For any given Quality QFIX, base layer bit-rate RBL, encoding frame-rate and spatial resolution, this table provides an average complexity factor [0056]). Since Van Der Schaar discloses determining how many bitplanes to

decode, as well as the invention embodied in a computer program code embodied in tangible media, it is clear to the examiner that the computer program code would include a table for storing the non-decoding bit planes as well as decoding time information, which reads on the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Eiji and Van Der Schaar in order to provide a more efficient encoding and decoding of bit-planes while upholding image quality [0006].

Regarding **claims 10-11**, the analysis and rejection made in claim 1 also apply here. The combination of Eiji and Van Der Schaar as whole teaches a processor-based system. Hence a program that can be executed by an information processing apparatus for executing the necessary steps corresponding to the decoding method of claim 1 would have been inherent.

Further regarding **claim 10,** Eiji is silent in regards to a program that can be executed by an information processing apparatus, having a program code for implanting a moving image decoding method of claim 1.

However, Van Der Schaar teaches a program that can be executed by an information processing apparatus, having a program code for implanting a moving image decoding method of claim 1 ([0059]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Eiji with the teachings of Van Der

Schaar to provide an increased efficiency of video encoding and decoding while using existing computer hardware.

Further regarding **claim 11,** Eiji is silent in regards to a storage medium that can be read by an information processing apparatus, storing a program of claim 10. However, Van Der Schaar teaches the present invention may also be embodied in the form of computer program code embodied in tangible media, such as random access memory (RAM), floppy diskettes, read only memories (ROM), hard drives, high density (e.g., "ZIP" or "JAZZ") removable disks, or any other computer-readable storage medium, wherein, when the computer program code is loaded into and executed by a computer, the computer becomes the an apparatus for practicing the invention [0059].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Eiji with the teachings of Van Der Schaar to provide an increased efficiency of video encoding and decoding while using existing computer hardware.

Examiner's Note

7. The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore &

associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Van Der Schaar et al., US-7, 136,532 FGS DECODER BASED ON QUALITY ESTIMATED AT THE DECODER

10. Andrew et al., US-6, 263,110 METHOD AND APPARATUS FOR DECODING A CODED REPRESENETATION OF A DIGITAL IMAGE

11. Chen et al., US-6, 501,397 BIT-PLANE DEPENDENT SIGNAL COMPRESSION

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMR

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